

SECTION ONE – ENVIRONMENTAL REGULATIONS

CHAPTER 1: Air Quality Regulations

Purpose and Applicability of Regulations

Many manufacturers operate processes and equipment or engage in activities that emit air contaminants. Although not all of these processes and activities directly discharge contaminants to the outer air through a stack, they do release air contaminants that eventually escape the building and enter the atmosphere. Some typical sources of air pollution that are regulated include coating and degreasing operations; combustion sources, such as boilers and incinerators; and material handling operations, such as concrete and asphalt batch plants.



The air quality regulations address the toxicity and quantity of air pollutants that directly or indirectly enter the atmosphere. The regulations described in this chapter are not specifically aimed at reducing worker exposure to air contaminants in the workplace, but rather at protecting the public and environment from air contaminants. Regulations protecting workers from the inhalation of air contaminants are administered by the Michigan Occupational Safety and Health Administration (MIOSHA). See Chapter 20 for a summary of these important requirements.

Agencies and Their Laws and Rules

The indirect or direct release of air contaminants into the outer air is regulated under federal and state statutes and rules. The purpose of these requirements is to minimize the adverse impact that air contaminants have on human health and the environment. The U.S. Environmental Protection Agency (EPA) is responsible for developing new regulations that implement the mandates of the federal Clean Air Act Amendments (CAAA) of 1990. Federal air quality regulations are published under Title 40, Parts 50 through 99 of the Code of Federal Regulations (40 CFR Parts 50-99).

Part 55 (Air Pollution Control) of the Natural Resources and Environmental Protection Act, Public Act 451 of 1994, as amended (Act 451) is the state law that regulates sources of air contaminants. The first administrative rules promulgated under Part 55 of Act 451, the Michigan Air Pollution Control Rules, became effective on August 15, 1967. The Air Quality Division (AQD) of the Michigan Department of Environmental Quality (DEQ) is responsible for developing and implementing state air quality requirements and enforcing compliance with both state and federal air quality requirements.

In This Chapter...

- Purpose and Applicability of Regulations
- Agencies and Their Laws and Rules
- 1.1 – Overview of State & Federal Air Quality Rules
- 1.2-1.11 – Part 2 through Part 14 Rules
- 1.12 – MAERS
- 1.13 – Tax Exemptions for Pollution Control Equipment
- 1.14 – Federal Air Regulations
- 1.15 – Prevention of Significant Deterioration
- 1.16 – National Emission Standards for Hazardous Air Pollutants
- 1.17 – New Source Performance Standards
- 1.18 – Acid Rain Regulations
- 1.19 – Managing Chemical Risk
- 1.20 – Ozone Depleting Substances
- Where To Go For Help

SECTION ONE: Environmental Regulations

To address the concerns of small businesses impacted by state and federal air quality regulations, Congress mandated that every state develop a program consisting of three elements: a technical assistance program, an ombudsman, and an advisory panel. In Michigan, the Environmental Assistance Program (EAP) serves as the outreach arm of the DEQ, Air Quality Division. The EAP provides assistance to small businesses by developing publications that simplify the air quality regulations, offering workshops on a variety of air quality regulatory programs, and responding to phone calls. The EAP is located within the Environmental Science and Services Division of the DEQ. The Clean Air Ombudsman serves as an advocate for small businesses. The Clean Air Ombudsman is located within the Michigan Economic Development Corporation. Seven members representing small businesses and the public serve on the Clean Air Compliance Advisory Panel. The Panel observes and evaluates the effectiveness of the Clean Air Assistance Program and Clean Air Ombudsman.

TABLE 1.1 DEFINITIONS OF IMPORTANT AIR QUALITY TERMS

There are a few terms that appear often in the discussion of state and federal air quality regulations. To enhance your understanding of the regulations, definitions of some of the key terms are provided below.

**Air
Contaminant**

In high school chemistry you learned that all matter is in either a solid, liquid, or gaseous state. The same applies to air contaminants. There are solid and liquid air contaminants that we call particulate, and there are many air contaminants in a gaseous state. Every air contaminant belongs somewhere on the pie chart in Figure 1.1. This pie chart represents the universe of air contaminants.

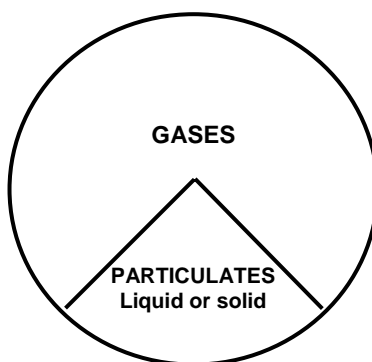


Figure 1.1 -
"Universe of Air
Contaminants"

State and federal air quality regulations, such as the New Source Performance Standards (NSPS) or the Renewable Operating Permit (ROP) program, target specific defined groups, or what we refer to as families of air contaminants. There are many families, some big and some small.

The following table summarizes the families of air contaminants. Many air contaminants belong to more than one family. In fact, most of the hazardous air pollutants (HAPs) are also considered VOCs. For example, xylene is a VOC, a HAP, and a regulated air pollutant. For additional information about air contaminants, including listings of air contaminants, see the Clean Air Assistance Program's fact sheet entitled, "What is an Air Contaminant/Pollutant?" Note: The EPA uses the term "air pollutant," whereas the state uses the term "air contaminant." Both terms mean the same and can be used interchangeably.

TABLE 1.1 DEFINITIONS OF IMPORTANT AIR QUALITY TERMS (continued)

Families of Air Contaminants	
Criteria	SO ₂ , NO ₂ , CO, Lead, Ozone, Particulate Matter (PM). The EPA has set National Ambient Air Quality Standards for the criteria air pollutants to protect public health and the environment.
Class I and II	Chlorofluorocarbons (CFCs) and Hydrochlorofluorocarbons (HCFCs)
Ozone Precursors	VOCs and NOX. Most sources do not emit ozone directly. However, they may emit VOCs and NOX which, in the presence of sunlight, contribute to ozone formation.
Hazardous Air Pollutants (HAPs)	187 compounds identified by the EPA. The Agency is regulating sources that are the primary emitters of these compounds through the promulgation of National Emission Standards for Hazardous Air Pollutants (NESHAPs). See Appendix 1-A for a listing of HAPs.
Toxic Air Contaminants	According to R 336.120(f), any substance which is or may become harmful to public health or the environment can be regulated as a toxic air contaminant, except for 41 substances which have been excluded. See Appendix 1-B for a listing of the excluded compounds.
New Source Performance Standards (NSPS)	The NSPS regulate the emission of the following air pollutants from various sources: criteria air pollutants plus dioxin/furan, fluorides, hydrogen chloride, hydrogen sulfide, sulfuric acid, total reduced sulfur, reduced sulfur compounds and more.
National Emission Standards for Hazardous Air Pollutants (NESHAPs)	The following air pollutants were regulated by the NESHAPs that were promulgated prior to the Clean Air Act Amendments of 1990: arsenic, asbestos, beryllium, benzene, mercury, radionuclides, and vinyl chloride.
Section 112(r) Air Pollutants	Section 112(r) of the 1990 Clean Air Act Amendments requires risk management planning and accidental release prevention. A total of 77 toxic chemicals and 63 flammable chemicals are regulated under Section 112(r).
Regulated Air Pollutants	All air pollutants regulated under the federal Clean Air Act: criteria air pollutants, ozone precursors, HAPs, NSPS, NESHAP, and Class I and II air pollutants.

SECTION ONE: Environmental Regulations

TABLE 1.1 DEFINITIONS OF IMPORTANT AIR QUALITY TERMS (continued)

Devices	<p>There are three types of devices: process, control, and stack. A process device is equipment that generates air contaminants, such as a boiler. A control device is equipment that captures and/or destroys air contaminants, such as a scrubber. A stack device is a conduit for dispersing air contaminants.</p>
Emission Unit	<p>Many manufacturing operations are made up of various individual process, control, and stack devices. Take a coating line for example. Process devices could include a primer booth, top coat booth, flash off, and curing oven. When it comes time to apply for a Permit to Install, does the applicant submit four permits, one for each device, or one permit for all four devices? To answer this, the AQD has issued guidance on how to arrange devices into the proper emission unit groupings. The purpose of the emission unit concept is simply to provide some order and consistency on how various air quality regulations (i.e., Permit to Install, ROP, and Michigan Air Emissions Reporting System [MAERS]) are administered.</p> <p>According to the guidance, AQD Operational Memorandum #6 (which can be found at the Air Quality Division's web site www.michigan.gov/deqair), state and federal rules are used to define the emission unit groupings. Many air rules are specific to a single device or collection of devices. Depending on the rules, the emission unit can be as simple as a parts cleaning tank which contains one process device (i.e., the tank of solvent), no control devices, and no stack devices (see R 336.1611). On the other hand, an emission unit can be as complex and large as an asphalt plant consisting of many process devices (i.e., dryers and systems for screening, handling, storing, and weighing hot aggregate, dust collectors, and stacks).</p> <p>The emission unit concept ensures that the grouping of devices remains consistent throughout all regulatory programs. Under the Permit to Install, special conditions are grouped by emission unit. Under the ROP program, all applicable requirements that the source is subject to are grouped by emission unit. Under MAERS, the annual emissions of air contaminants are reported by emission unit. In summary, the emission unit is the common thread between the air regulatory programs.</p>
Stationary Source	<p>A stationary source or facility consists of all the buildings and structures that house the emission units. Stationary sources can range from a simple auto body shop, which can contain one emission unit (i.e., a spray paint booth) to an auto assembly plant which can contain multiple buildings housing hundreds of emission units.</p> <p>In summary, facilities can be broken down into many levels. The highest level is the stationary source itself. The next level is the emission unit level. Lastly is the device level which can be broken down into process devices, control devices, and stack devices.</p>
Potential to Emit	<p>Potential to emit (PTE) is defined in R 336.1116(m). It is the emission of each air contaminant from an emission unit operating at its maximum rate capacity, 24 hours per day, 365 days a year, and without any air pollution control device. A source's PTE of each air contaminant is the summation of the PTE of all emission units. PTE is typically reported in tons of a specific air contaminant per year, e.g., 200 tons of sulfur dioxide per year.</p> <p>The PTE of emission units can be reduced by installing control devices or placing restrictions on operating hours and/or the amount of raw materials used as long as the operation of the control device and restrictions are part of a special condition of a Permit to Install or ROP.</p>

TABLE 1.1 DEFINITIONS OF IMPORTANT AIR QUALITY TERMS (continued)

Potential to Emit (continued)	<p>The AQD uses special conditions of a Permit to Install to lower the PTE of an emission unit and, in turn, the stationary source. Many sources operating without air permits have actual emissions much lower than their PTE because many emission units do not run continuously and at full capacity.</p> <p>For unpermitted emission units, it is technically impossible for the actual emissions to exceed the PTE. For permitted emission units, if the actual emissions of an air contaminant exceed the PTE, the source is in violation of the Permit to Install conditions.</p> <p>PTE is such an important concept because applicability of the state and federal requirements is dependent upon a source's or emission unit's potential to emit, not actual emissions. Actual emissions can deviate day-to-day and year-to-year and are unpredictable, whereas the PTE remains consistent and predictable because it is based upon maximum capacity, continuous operation, or is reflected in an emission limit found in the Permit to Install.</p> <p>Company ABC operates three emission units: boiler, coating line #1, and coating line #2. The company applied for and received a Permit to Install for the two coating lines. The permit limits the emissions of VOC to 28 and 15 tons per year, respectively. The boiler is not covered under a permit because it is exempt from the Permit to Install requirements. The company calculated the boiler's PTE assuming continuous operation and maximum capacity. The table below identifies the PTE of each air contaminant from each emission unit and from the source.</p> <table><tr><th colspan="6">PTE Calculation for Company ABC (tons per year)</th></tr><tr><th>Emission Unit</th><th>VOC</th><th>CO</th><th>NOx</th><th>SO2</th><th>PM</th></tr><tr><td>Coating Line #1</td><td>28</td><td></td><td></td><td></td><td></td></tr><tr><td>Coating Line #2</td><td>15</td><td></td><td></td><td></td><td></td></tr><tr><td>Boiler</td><td></td><td>6</td><td>5</td><td>1</td><td>3</td></tr><tr><td>PTE of Source</td><td>43</td><td>6</td><td>5</td><td>1</td><td>3</td></tr></table>	PTE Calculation for Company ABC (tons per year)						Emission Unit	VOC	CO	NOx	SO2	PM	Coating Line #1	28					Coating Line #2	15					Boiler		6	5	1	3	PTE of Source	43	6	5	1	3
PTE Calculation for Company ABC (tons per year)																																					
Emission Unit	VOC	CO	NOx	SO2	PM																																
Coating Line #1	28																																				
Coating Line #2	15																																				
Boiler		6	5	1	3																																
PTE of Source	43	6	5	1	3																																
Major Source	<p>A major source is a stationary source whose PTE exceeds established annual emission thresholds. These levels have been set for individual air contaminants. There are four different types of major sources: major prevention of significant deterioration source (PSD), major offset source, major ROP source, and major HAP source. Each one of these major sources has different annual emissions threshold levels. For example, under the ROP program, a major source is one that has a PTE greater than 100 tons or more of any regulated air contaminant, 10 tons of a single HAP, or 25 tons of a combination of HAPs. Under PSD, a major source may be one that has a PTE great than 100 or 250 tons of any regulated air contaminant, depending on what type of source it is.</p> <p>Sources that meet one or more major source definition can become subject to some very complex and costly control requirements</p>																																				

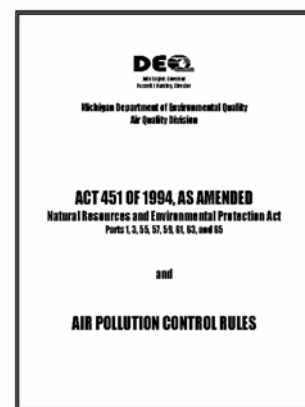
TABLE 1.1 DEFINITIONS OF IMPORTANT AIR QUALITY TERMS (continued)

Minor Source	Sources whose PTE is less than the major source annual emission thresholds are considered minor sources. A true minor source is one that, even operating at its maximum capacity and continuously, cannot exceed the annual emission threshold levels. A synthetic minor source is a source that has a permit (i.e., Permit to Install or ROP) with conditions that legally restrict its PTE to below the threshold levels. Many sources avoid PSD, offset, and ROP requirements by becoming a synthetic minor source.
---------------------	--

1.1 Overview of Michigan's Air Quality Rules

Chapter 1.1 provides a summary of the state air quality regulations that affect Michigan manufacturers. DEQ's AQD has promulgated numerous regulations including air permitting to control the release of air contaminants. The purpose of these rules is to keep Michigan in attainment of the National Ambient Air Quality Standards (NAAQS). The EPA has set standards for six air contaminants: ozone, particulate matter, sulfur dioxide, nitrogen dioxide, lead, and carbon monoxide. Adverse effects to human health and the environment can occur when the concentration of these pollutants exceeds (or is in nonattainment of) the standard.

The rules promulgated under Part 55 of Act 451, the [Michigan Air Pollution Control Rules](#), are grouped into parts.



- Part 1 - Definitions.
- Part 2 – Air Use Approval (Air Permitting, Offsets, and Air Toxics).
- Part 3 – Emissions Limitations and Prohibitions – Particulate Matter.
- Part 4 – Emissions Limitations and Prohibitions – Sulfur-Bearing Compounds.
- Part 6 – Emissions Limitations and Prohibitions – Existing Sources of Volatile Organic Compound (VOC) Emissions
- Part 7 – Emissions Limitations and Prohibitions – New Sources of VOC Emissions
- Part 8 – Emissions Limitations and Prohibitions – Oxides of Nitrogen.
- Part 9 - Miscellaneous Provisions.
- Part 10 – Intermittent Testing and Sampling
- Part 11 – Continuous Emissions Monitoring
- Part 12 – Emissions Averaging and Emission Reduction Credit Trading
- Part 14 – Clean Corporate Citizen Program

Chapters 1.2 through 1.11 contain a more detailed explanation of each of these parts and how they affect manufacturers in Michigan.



To obtain a copy of the Michigan Air Pollution Control Laws and Rules, contact the DEQ, Environmental Assistance Program at (800) 662-9278 for an order form. The form is also available at www.michigan.gov/deqair (select "Laws & Rules" then "Air Pollution Control Rules").

The EPA promulgates its share of complex air quality regulations such as New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAPs), and Prevention of Significant Deterioration (PSD) air programs, to name a few. These regulations are discussed in Chapter 1.14 through 1.20.



How do you know which regulations apply to your sources of air pollution?

Prior to installing a new source of air contaminants, you must complete and submit a Permit to Install application to the AQD. During the permitting process, all of the applicable federal and state regulations are identified and incorporated into the approved Permit to Install. Staying abreast of the laws as they are promulgated is the only way to know which regulations apply to sources of air pollution that are covered under older air permits or are exempt from the permit requirements.

1.2 Part 2 Rules: Air Permits, Offset Requirements, and Air Toxics Regulations

The two state air permitting requirements, Permit to Install and Renewable Operating Permit, are found in Part 2 of the Michigan Air Pollution Control Rules. In addition, the Part 2 rules contain a set of rules that regulate the emission of toxic air contaminants. Below is a summary of these widely applicable rules.

1.2.1 Air Permits

There are two different, yet related air permit programs that manufacturers should be aware of: the Permit to Install and the Renewable Operating Permit (ROP). Both programs are administered by the AQD.

Air permitting is the vehicle through which regulatory agencies combine all applicable state, federal, and local requirements associated with a source of air pollution into one legally and enforceable document. Facilities that are exempt from permitting requirements do not go unregulated. They still may be subject to air quality regulations, however, usually not as many as the permitted sources.

1.2.2 Permit to Install Program

Many businesses are faithful about obtaining building permits, electrical permits, or mechanical permits for the installation of new structures and equipment from their local building officials. However, many of these same businesses may not be aware that an air permit from the AQD may be required for equipment and activities that emit air contaminants.

According to [R 336.1201](#) of the Michigan Air Pollution Control Rules, before a facility can legally install, relocate, modify, or reconstruct equipment that emits air contaminants, it must apply for and receive an approved Permit to Install. Each approved Permit to Install contains a list of general and special conditions that the source must comply with. These conditions typically:

- ✓ Limit the emission of air contaminants.
- ✓ Restrict hours of operation.
- ✓ Limit the amount and type of raw materials used.
- ✓ Require the operation of air pollution control devices.

Not all sources of air contaminants or emission units need to be permitted under R 336.1201. Part 2 contains numerous rules exempting insignificant sources of air pollution from the Permit to Install requirement. For example, welding operations and natural gas-fired furnaces with a heat rated capacity of no more than 50 million Btu/hr are exempt from the permitting requirements.

You can download the [Permit to Install exemption handbook](#) at www.deq.state.mi.us/pubcenter

Below are some important characteristics of the Permit to Install program:

- A Permit to Install is a state license to emit air contaminants into the ambient air.
- A facility's compliance with conditions of the permit protects public health and the environment.
- The permitting process uncovers all of the specific state and federal rules that apply to the equipment covered under the permit. Many of these applicable rules become conditions of the permit.
- Conditions of a Permit to Install limit the potential to emit of the applicant's facility. This is a good thing. If the proposed installation or modification of an emission unit or source meets the definition of a major PSD or offset source, then the source may be subject to additional stringent regulations such as modeling emissions, installing best available control technology (BACT), and going through a public hearing. The only way to avoid these added requirements is to accept restrictions limiting the PTE to below the major source emission threshold levels using permit conditions. Manufacturers who cannot avoid these additional requirements may need the services of a consultant to complete their permit applications.
- No fees are associated with obtaining a Permit to Install. It's free!
- The permit does not expire; it does not have to be renewed. It is good for as long as the equipment is in operation. However, it may require notification of completion of the

installation, construction, reconstruction, relocation, or modification (see R 336.1201[7][a]) and notification of the status of compliance (see R 336.1201[7][b]).

The Environmental Assistance Program and Air Quality Division have developed a number of useful guidebooks on this subject. The “[Permit to Install: Determining Applicability Guidebook](#)” contains a very in-depth discussion of what triggers the need for an air permit. If you do need a permit, obtain the “[Permit to Install Workbook – A Practical Guide to Completing an Air Permit Application](#).” Permit to Install application forms and instructions are available from the Environmental Assistance Program and the AQD’s district offices.

1.2.3 The Renewable Operating Permit (ROP) Program

It’s important not to confuse the Permit to Install with Michigan’s other air permit requirement: the ROP. The ROP program falls under Title V of the Clean Air Act Amendments of 1990 and is administered by the AQD under R 336.1210-1218 of the Michigan Air Pollution Control Rules. The ROP program clarifies which requirements apply to a facility that emits air contaminants. Currently, these obligations are scattered among numerous state and federal regulations. The ROP incorporates all requirements into a single document that gives the facility, state and local regulatory agencies, the EPA, and the public a clearer picture of air emissions at a facility.

According to R 336.1211, facilities that meet the definition of a “major source” must obtain an ROP. The EPA has also required all acid rain and waste incineration facilities to obtain an ROP even if they are below the major source cutoffs.

The ROP program does not supersede or replace the Permit to Install requirements. Sources having to apply for an ROP are still required to submit a Permit to Install application when installing or modifying emission units. All Permit to Install conditions are eventually folded into the facility’s ROP.



For guidance on determining whether or not your facility is a “major source” and subject to the ROP program, contact the Environmental Assistance Program at (800) 662-9278.

1.2.4 Air Toxics Regulations

In response to increased concern over adverse health effects related to air toxics, federal regulations and state requirements are promulgated in an attempt to reduce air toxics emissions. In Michigan, air toxics are controlled under two sets of regulations: (1) state administrative rules which regulate toxic air contaminants or TACs; and (2) the federal Clean Air Act which regulates the release of hazardous air pollutants (HAPs). See Chapter 1.16 for the discussion on HAPs.

States may implement a plan specific to the needs of their communities with regard to air emission regulations. According to Michigan’s rules, all known substances which are or may become harmful to public health or the environment can be regulated as “toxic air contaminants (TAC).” The state of Michigan addresses toxic air contaminants in R 336.1224-1232 (Rules 224-232) of the Michigan Air Pollution Control Rules promulgated under Part 55 of Act 451. The primary requirements are found in Rules 224(1) and 225(1), which state that a source that emits a TAC: Shall not cause or allow the emission of the toxic air contaminant from the proposed new or modified emission unit or units in excess of each of the following:

SECTION ONE: Environmental Regulations

(Rule 224 [1]): The maximum allowable emission rate based on the application of best available control technology for toxics (T-BACT).

(Rule 225 [1]): The maximum allowable emission rate which results in a predicted maximum ambient impact that is more than the initial threshold screening level or the initial risk screening level, or both.

These rules apply to all new or modified sources of air pollution that are required under Michigan regulations to obtain a Permit to Install (see Chapter 1.2.2). Michigan's toxic air contaminant rules require a two-fold analysis. First, the owners or operators of sources of TACs are required to evaluate and use the best economically feasible, technologically advanced air pollution controls. This means that, as new technology progresses and better air pollution controls are developed, each new or modified source is required to consider the newest and best technology. Second, DEQ engineers review the permit application to determine the amount of toxic air pollution the facility could possibly emit after the best controls are installed. The facility is required to limit its toxic air emissions to amounts at or below those deemed safe for protecting public health for each toxic air contaminant. Again, as technology progresses, these limits must be continuously reviewed and changed if necessary, for each toxic air contaminant.

Michigan T-BACT

The special conditions of a Permit to Install set emission limits and work practice standards that are enforceable. The toxic air contaminant emission limits are based on a control technology analysis (T-BACT). Emission limits are expressed in pounds/hour based on maximum operational capacity and in terms of process variables such as material processed, fuel consumed, or pollutant concentrations (e.g., pounds of TAC per million BTUs [lbs/10⁶ Btu], pounds of TAC per gallon of coating solids applied, or micrograms of TAC per dry standard cubic meter of air [ug/dscm]).

Best available control technology for toxics (T-BACT) is the most efficient alternative which is reasonably achievable as stated in R 336.1102(a):

“T-BACT is the maximum degree of emission reduction which the department determines is reasonably achievable for each process emitting toxic air contaminants, taking into account energy, environmental, and economic impacts and other costs.”

Screening Levels

R 336.1225 contains a methodology that the AQD uses to demonstrate that emissions of TACs from an emission unit do not result in a harmful effect on the public being exposed to the contaminants. One does this by comparing the predicted ambient level of the air contaminant at the facility's property line with the appropriate health-based screening level (defined below). If the predicted ambient level is below the screening level and the emission is adequately controlled under best available control technology for toxics (T-BACT), then the emission is acceptable. If it exceeds the screening level, the facility must make changes to reduce the emission or improve the dispersion of the air contaminant, or both, to reduce the predicted ambient level to below the screening level.

R 336.1227 provides methods for determining if the emissions of a TAC will comply with the requirement of the health-based screening level and thus ensure that the predicted ambient impact of a TAC is below the applicable health-based screening level. R 336.1227(1)(a) contains

a simple method to determine the allowable emission rate based only on the screening level. This method does not use site-specific data and assumes there will be poor dispersion of the TAC, due to a short stack and short distance from the stack to the facility property line. The screening method in R 336.1227(1)(b) uses a table that requires a few facility-specific characteristics to determine the allowable emission rate. This method generally provides a higher allowable emission rate than that in R 336.1227(1)(a) by using site-specific characteristics. Lastly, R 336.1227(1)(c) uses dispersion models to determine compliance with health based screening levels. This method generally provides for the highest allowable emission rate due to the use of facility and site-specific information and elimination of conservative assumptions.

A screening level is the concentration of an air contaminant that is designed to be protective of public health. R 336.1225 does not allow companies to emit air contaminants in quantities that will exceed the screening levels at the property line, except for special circumstances allowed under R 336.1225(3) and R 336.1226. In general, the initial threshold screening levels (ITSL) are screening levels designed to protect against noncarcinogenic effects; and initial risk screening levels (IRSL) and secondary risk screening levels (SRSL) protect against carcinogenic effects. Screening levels are developed from toxicological data and are expressed in concentrations of micrograms per cubic meter (ug/m³) and in various averaging times; i.e., 1 hour, 8 hours, 24 hours, and annually.

The AQD maintains a list of all screening levels that have been established by the division. The list of screening levels is updated periodically as more compounds are evaluated. You can get a list of the screening levels at www.michigan.gov/deqair (select “Air Toxics”) or by contacting the Clean Air Assistance Program at (800) 662-9278.

1.3 Part 3 Rules: Particulate Matter

Part 3 of the Michigan Air Pollution Control Rules establishes particulate emission limitations for various activities. Open burning and the density of visible emissions from a vent or stack are regulated as well. Certain facilities are required to develop plans to control fugitive dust emissions from roadways, storage piles, and other dust-generating activities.

1.3.1 *Particulate Emission Limits*

R 336.1331 contains maximum allowable emission rates of particulate matter from a variety of emission units, such as fuel-burning equipment, incinerators, steel manufacturing, foundries, kilns, asphalt paving plants, cement manufacturing, iron ore pelletizing, fertilizer plants, and exhaust systems serving material handling equipment not previously identified. The majority of emission rates are expressed in pounds of particulate emitted per 1,000 pounds of exhaust gas.

1.3.2 *Opacity*

Opacity is defined as the degree to which air emissions reduce the transmission of light. Opacity is measured in percentage. For example, if the opacity of air contaminants being discharged from a stack is 20 percent, then 20 percent of the light traveling through the plume is blocked by the air emissions and 80 percent of the light passes through the plume. The higher the opacity, the denser the plume of air emissions. R 336.1301 limits the opacity of visible emissions discharged from an emission unit. This rule prevents manufacturers from discharging dense black or white smoke from their activities.

1.3.3 Open Burning

Open burning is the burning of unwanted materials, such as paper, trees, brush, leaves, grass, and other debris, where smoke and other emissions are released directly into the air without passing through a chimney or stack (R 336.1115[b]). In Michigan, three agencies administer open burning regulations: the DEQ Waste and Hazardous Materials Division, DEQ AQD, and the Department of Natural Resources. Part 55 (Air Pollution Control), Part 115 (Solid Waste Management), and Part 515 (Forest Fire Prevention) of the Natural Resources and Environmental Protection Act, Public Act 451 of 1994, along with the rules associated with each part, regulate the practice of open burning. In addition to state regulations, local units of government often regulate the practice as well. Local laws take precedence over state regulations only if the local regulations are more restrictive of open burning.



Open burning is not an acceptable disposal method for waste generated at commercial and industrial facilities. Neither solid waste nor air quality regulations permit the open burning of commercial and industrial wastes. There are a number of regulations which allow the open burning of household waste; however, this applies only to waste generated at an individual household. Waste generated at commercial or industrial operations cannot be open burned at a private residence.

More information about open burning can be found at the DEQ's open burning web site: www.michigan.gov/deqair (select "Open Burning Information").

1.4 Part 4 Rules: Sulfur Bearing Compounds

Part 4 of the Michigan Air Pollution Control Rules establish sulfur dioxide emission limitations on boilers and other fuel-burning equipment. The sulfur content of fuels, such as coal and fuel oil, must fall within prescribed percentages.

1.5 Part 6 Rules: Existing Sources of VOC Emissions

In 1978, the EPA published a document containing available methods and technologies designed to reduce emissions from a variety of sources that emit VOCs. Many of the control strategies in this document were incorporated into the Michigan Air Pollution Control Rules, specifically the Part 6 rules.

The EPA document describes the technologies as reasonable available control technology (RACT). RACT was developed to help state and local agencies determine the level of VOC control needed to represent the lowest achievable emission rate using reasonable available control technology. Significant research was conducted to establish RACT and identify a level of control that industry could comply with, while benefiting the environment through improved air quality. Part 6 rules are often referred to as the RACT rules, and they are used to regulate existing sources of VOCs in accordance with state obligations under the federal Clean Air Act.

Table 1.2 contains a listing of all the VOC-emitting emission units regulated under the Part 6 rules.

TABLE 1.2 SUMMARY OF PART 6 RULES

Rule Number*	Emission Unit	Existing Means Equipment Installed before:
604-605	Storage of organic compounds	July 1, 1979
606-609	Loading of gasoline into gas stations and bulk plants	July 1, 1979
610	Automotive and light-duty trucks; cans; coils; large appliances; metal furniture; magnet wire; and nonmetallic surfaces of fabrics, vinyl, or paper coating lines	July 1, 1979
611-614	Solvent vapor degreasers and cold cleaners	July 1, 1979
615-617	Petroleum refinery	July 1, 1979
618	Cutback paving asphalt	July 1, 1979
619	Perchloroethylene dry cleaning equipment	July 1, 1980
620	Flat wood paneling lines	July 1, 1980
621	Metallic surface coating lines	July 1, 1980
622	Petroleum refineries	July 1, 1980
623	Storage of petroleum liquids	July 1, 1980
624	Graphic art lines	July 1, 1980
625	Pharmaceutical products	July 1, 1980
627	Delivery vessels	Not applicable
628	Synthetic organic chemicals	January 5, 1981
629	Natural gas processing	January 20, 1984
630	Paint manufacturing	July 1, 1987
631	Polystyrene and organic resins	July 1, 1987
632	Plastic coating lines	July 1, 1979
651	Degreasers	Not applicable

1.6 Part 7 Rules: New Sources of VOC Emissions

Under Part 7 of the Michigan Air Pollution Control Rules, a new source is defined as any emission unit placed into service on or after July 1, 1979. According to R 336.1702, when installing a new source of VOCs or modifying an existing source, a facility must evaluate the following four emission rates and use whichever one results in the lowest maximum allowable emission rate of VOCs.

1. An emission rate based upon BACT.
2. The maximum allowable emission rate specified by an NSPS promulgated by the EPA.
3. The maximum allowable emission rate specified as a condition of a Permit to Install.
4. The maximum allowable emission rate specified in the Part 6 rules of the Michigan Air Pollution Control Rules.

BACT Analysis

BACT is defined as the most stringent emission limit or control technique that has either been achieved in practice for a category of emission units, is found in other state air quality rules, or is considered by the regulatory agency to be technically feasible and cost effective. A BACT analysis, which is performed as part of the permit review process, triggers continual use of technology that results in low emissions of air contaminants. Since technology is ever-changing, BACT is an evolutionary process that strives for continuous improvement of air quality in the state.

New Source Performance Standards

Under Section 111 of the Clean Air Act, the EPA is authorized to establish new source performance standards (NSPS) for new or modified sources in particular industrial categories. These standards set emission limits for over 75 categories that have the potential to emit a significant amount of air contaminants that could endanger public health and welfare.

The NSPS requirements are found in the federal rules published in the Code of Federal Regulations (CFR). The federal rules relating to environmental protection are contained in Title 40 of the CFR. Air quality regulations are found in Parts 50 to 99 of Title 40. The NSPS requirements are located in Part 60. Each specific NSPS is a subpart of Part 60.

Appendix 1-C lists all of the NSPS subparts including those related to VOC emission units.

Permit Conditions

An emission rate contained in a previously issued Permit to Install is reviewed by the permit engineer of the AQD and applied to a similar new source undergoing the permit review. From a practical standpoint, this emission rate is not viable as it would be difficult to limit emissions by permit condition to a level more stringent than prescribed by BACT.

Part 6 Rules

Finally, the last step to identify the lowest maximum allowable emission rate for a proposed new source of VOC emissions is the emission limitations contained within the Part 6 rules of Michigan Air Pollution Control Rules. It is a reasonable expectation that new sources of VOCs should emit no more than existing sources of VOCs.

1.7 Part 8 Rules: Oxides of Nitrogen (NO_x)

Part 8 of the Michigan Air Pollution Control Rules establish emission limits on sources of oxides of nitrogen. These sources include larger fossil fuel-fired emission units such as electricity generating units, boilers/process heaters, stationary internal combustion engines, cement kilns, and stationary gas turbines. Emission units subject to the Part 8 rules must comply with the emission limits provided, as well as all applicable monitoring, testing, and recordkeeping requirements.

1.8 Part 9 Rules: Miscellaneous Provisions

The rules in Part 9 of the Michigan Air Pollution Control Rules can apply to any manufacturer, regardless of the type of air contaminant emitted or emission unit installed. According to R 336.1901, air contaminants cannot be emitted in quantities that could have an injurious effect on human health or safety or cause unreasonable interference with the comfortable enjoyment of life and property.

Manufacturers, upon request from the AQD, must prepare a malfunction abatement plan to prevent, detect, and correct malfunctions resulting in the emissions of air contaminants exceeding any applicable limitation (R 336.1911). When a manufacturer has a malfunction of a process device and/or control device that results in the exceedance of an emission standard or limitation over a prescribed amount of time, it must be reported to the AQD (R 336.1912).

1.9 Part 10 Rules: Intermittent Testing and Sampling

Part 10 of the Michigan Air Pollution Control Rules give the AQD authority to require sources to quantify their air emissions to verify compliance with the emission standards. The testing must be performed in accordance with established testing methodologies.

1.10 Part 11 Rules: Continuous Emission Monitoring

Large sources of air contaminants must operate continuous emission monitoring equipment to verify compliance with the applicable emission standards. The monitoring equipment is typically installed in the process device itself or in the stack.

1.11 Part 14 Rules: Clean Corporate Citizen Program

Michigan's Clean Corporate Citizen Program allows sources that have demonstrated environmental stewardship and a strong environmental ethic to receive public recognition and air quality permit processing benefits. For more information, call (800) 662-9278 or go to www.michigan.gov/deqc3.



1.12 Michigan Air Emissions Reporting System

The federal Clean Air Act requires that each state maintain an inventory of air pollution emissions for certain facilities and update this inventory every year. Michigan's emission inventory is the Michigan Air Emissions Reporting System (MAERS). The AQD maintains MAERS by requesting certain facilities to annually report their emissions. This information is used to track air pollution trends, determine the effectiveness of current air pollution control programs, serve as a basis for future-year projections of air quality, track source compliance, provide information for permit review, and calculate the emissions portion of the air quality fee.

Not every facility is required to report under MAERS. Facilities that participate in the emissions trading program, are subject to fees, or use R 336.1208(a) to opt-out of the ROP program must

SECTION ONE: Environmental Regulations

report emissions. In addition, facilities with actual annual emissions greater than the following thresholds will be included in MAERS and will be notified to report emissions annually:

- Carbon monoxide (CO) - 100 tons per year
- Nitrogen oxides (NO_x) - 40 tons per year
- Sulfur dioxide (SO₂) - 40 tons per year
- Particulate matter (PM) - 25 tons per year
- Particulate matter (PM-10) - 15 tons per year
- Volatile organic compounds (VOC) - 10 tons per year



For more information about MAERS, contact the Environmental Assistance Program at (800) 662-9278 and request the **"MAERS Workbook."**

MAERS reports are due by March 15 each year. By the end of January, the AQD notifies those facilities that must submit the MAERS report.

1.13 Tax Exemption for Air Pollution Control

As per Article II, Chapter I, Part 59 (Air Pollution Control Facility; Tax Exemption) of Public Act 451 of 1994, hereinafter referred to as "Part 59," tax exemptions for air pollution control are available through an application separate from the Permit to Install application. Specific procedures must be followed to be granted tax relief and tax exemption certificates are terminated when equipment is removed.

Part 59 provides for the exemption of air pollution control facilities from sales, use, and property taxes (equipment installed prior to the effective date of Part 59 is eligible for tax exemption). The responsibility for the evaluation of all pollution control tax exemption certificate applications lies with district staff of the DEQ, AQD. All questions regarding the processing of these applications should be directed to the attention of the appropriate supervisor at each AQD district office.

Applications for tax exemption for air pollution control facilities must be submitted to the Michigan State Tax Commission (STC) in triplicate on the **"Application for Air Pollution Control Tax Exemption Certificate"** forms. **All applications must be submitted by July 15, and be administratively complete**, to ensure that final determinations are made by the end of the tax year. These forms can be obtained from:

Michigan State Tax Commission
Department of Treasury
430 W. Allegan Street
Lansing, MI 48922
Telephone: (517) 373-3272

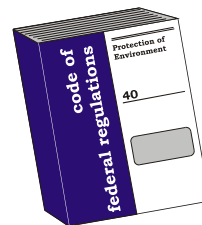
or from the Michigan State Tax Commission's website at www.michigan.gov/treasury (select "Individual," "Property Owners," "Forms & Instructions," "Property Tax - Abatement/Exemption," then select "#3828, Application for Air Pollution Control Tax Exemption Certificate").

The evaluation of an application, the decision of what equipment meets the requirements of Part 59 will be based on the descriptions in the Act, and described in the **"Tax Exemption Application Guidance Document"** available on the MDEQ, AQD web site at: www.michigan.gov/deqair (under "Spotlight" select "Air Publications").

Once submitted, an administrative completeness check will be conducted by the STC for each application. Failure to complete the required information will result in a return of the application. A technical completeness check will be conducted by the MDEQ. If the application is technically incomplete, and the requested additional information is not submitted within 30 days of notification of the deficiency, the MDEQ will consider the application withdrawn and it will be returned to the State Tax Commission. The STC will then place the application on an inactive status, and notify the company that no certificate will be issued. Once an application is administratively and technically complete, the STC keeps the official copy, and then forwards a copy to the AQD District Office, and the third copy to the local tax assessor. Most tax exemption determinations are completed by October or November of the same tax year.

1.14 Federal Air Regulations

The EPA promulgates federal rules and standards that affect a wide variety of sources of air contaminants, especially those operated by manufacturers. The DEQ, AQD receives delegation from the EPA to implement and enforce compliance with these federal regulations. Some of the federal air quality regulations that all manufacturers should be aware of include: Prevention of Significant Deterioration (PSD), New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAPs), Risk Management Plans, and the regulation of CFCs.



1.15 Prevention of Significant Deterioration

The primary provisions of the Prevention of Significant Deterioration (PSD) program, as found in Michigan's Part 18 Rules which mirror the federal requirements in 40 CFR 52.21 regulations, require that new major stationary sources and major modifications at existing major sources be carefully reviewed prior to construction. The review is intended to ensure compliance with the national ambient air quality standards, the applicable PSD increment concentrations, and the requirement to apply best available control technologies on the project's emissions of air pollutants. The review for major stationary sources and major modifications to major stationary sources are required by the Clean Air Act to undergo a new source review (NSR) and obtain a permit before construction.

Perhaps the most complicated and frustrating aspect of PSD is determining applicability. PSD applicability depends on a new source or a modification to an existing source resulting in emissions increases above certain applicability thresholds. A "major stationary source" is any source type belonging to a list of 28 source categories which emits or has the potential to emit 100 tons per year or more of any NSR pollutant, or any other source type which emits or has the potential to emit any NSR pollutant in amounts equal to or greater than 250 tons per year. A stationary source generally includes all pollutant-emitting activities which belong to the same industrial grouping, are located on contiguous or adjacent properties, and are under common control.

A major modification is generally a physical change or a change in the method of operation of an existing major stationary source. In determining if a specific project would become subject to the PSD program, the modification must be determined to result in both a significant emissions increase (by itself) and a significant net emissions increase (across the whole stationary source) of any NSR pollutant.

SECTION ONE: Environmental Regulations

The basic goals of the PSD program are: (1) to ensure that economic growth can continue while simultaneously preserving existing air quality (i.e., prevent degradation of an attainment area into a nonattainment area); and (2) to preserve and protect the air quality in areas of special natural recreational, scenic, or historic value, such as national parks and wilderness areas (i.e., Class I areas). Nonattainment areas are covered under Michigan's Rule 220 which will be rescinded when the new Part 19 Nonattainment rules are promulgated in Michigan.

In two rulemaking actions, on December 31, 2002 and October 27, 2003, the EPA substantially reformed the PSD program. The reformed program modified PSD as it had been implemented pursuant to the 1977 Clean Air Act mandates and 1980 federal court decisions. The December regulations became effective in the state of Michigan on March 3, 2003. The October 2003 regulations were stayed by the federal courts and never became effective in Michigan. The DEQ implements the PSD program in the state under a delegation of authority from EPA which will be removed upon EPA's approval of Michigan's PSD state implementation plan (SIP) submittal.

The reforms originally contained six components:

1. Changed the method of determining the baseline level of emissions from which changes are measured to determine if a significant or significant net emissions increase will occur.
2. Instituted applicability determinations by comparing projected future actual emissions against baseline actual emissions. Previously, applicability was determined on the increase in allowable emissions above baseline actual emissions.
3. Created a Plantwide Applicability Limit permitting regime, in which compliance with a single, plantwide emissions limit becomes the sole determiner of NSR applicability for future changes at the facility.
4. Codified the exemption from NSR applicability granted to Pollution Control Projects. This exemption had been allowed through EPA guidance since 1994.
5. Created the Clean Unit applicability test which allowed changes to emission units that had installed state of the art controls to proceed without NSR applicability - as long as the changes did not alter the basis for the use of those controls.
6. Created an Equipment Replacement Provision under the routine maintenance, repair and replacement exclusions from NSR applicability.

As a result of two major federal court challenges to these reforms, only the first three remain. The Pollution Control Project exclusion, the Clean Unit test and the Equipment Replacement Provisions were ruled to violate the Clean Air Act and have been nullified.

The new method for determining baseline actual emissions expanded, from five years to ten years, the period of time over which a two-year average of actual annual emissions could be selected as the baseline from which emission changes are measured. Any 24-month period during the previous ten years can be selected by an applicant as the emissions baseline.

The actual to projected actual applicability test allows a modification at an existing source to determine whether a significant or significant net emissions increase will occur based solely on the emissions increase resulting from the modification itself. To accomplish this, future emissions are projected based on anticipated business demand. Any emissions increases resulting from future production that would have, or could have, been accommodated without the modification do not count towards NSR applicability. The creation of the actual to projected actual applicability test does not eliminate the traditional actual to potential applicability test.

The Plantwide Applicability Limit (PAL) permit written into the recently reformed PSD regulations establish an alternative PSD applicability threshold to the actual to potential or actual to projected actual methods. The PSD PAL leaves almost all existing permit requirements in place and adds a new, facility-wide tons per year emissions limit for a single pollutant. This facility-wide pollutant-specific limit establishes the applicability threshold for PSD – as long as the PAL is not exceeded, NSR applicability is not triggered. The goal of the PAL is to internally motivate facilities to voluntarily reduce emissions in order to accommodate future increases rather than subject those increases to NSR.

For more information about the PSD reforms, obtain a copy of the “[PSD Workbook – A Practical Guide to Prevention of Significant Deterioration](#).” The workbook is available for viewing and/or downloading at www.deq.state.mi.us/aps.



For assistance in determining whether or not your proposed installation or modification of an emission unit or source will trigger the PSD requirements, contact the Environmental Assistance Program at (800) 662-9278.

1.16 National Emission Standards for Hazardous Air Pollutants (NESHAPs)

The 1970 version of the federal Clean Air Act required the EPA to set emission standards referred to as National Emission Standards for Hazardous Air Pollutants or NESHAPs. From 1970 to 1990, NESHAPs were issued for only seven compounds: asbestos, beryllium, mercury, vinyl chloride, arsenic, radionuclides, and benzene.

Under Title III of the Clean Air Amendments of 1990, Congress wanted EPA to speed up the pace of regulation. Section 112 of the Clean Air Act Amendments calls for the development of NESHAPs to reduce the emissions of 187 hazardous air pollutants (HAPs). The original list of HAPs contained 189 compounds; however, capalactum and methyl ethyl ketone (MEK) have been removed from the list. See Appendix 1-A for a listing of HAPs.

Implementation of Section 112 began with the identification of sources that are the major contributors of the 187 HAPs. EPA has identified over 174 source categories of sources that emit HAPs and that should be regulated.

1.16.1 Major and Area HAP Sources Defined

A “major HAP source” is a facility that has the potential to emit more than 10 tons per year of any single HAP or 25 tons of all HAPs combined. An “area source” is one that has the potential to emit less than 10 tons of any single HAP or 25 tons of all HAPs combined. The majority of NESHAPs promulgated apply to major HAP sources. However, a number of NESHAPs are currently being promulgated for area sources as well.

1.16.2 Regulating Major and Area HAP Sources - MACT and GACT

Section 112 of the federal Clean Air Act requires the EPA to promulgate regulations that establish emission standards (commonly referred to as NESHAPs) for each category of major sources and area sources of HAPs identified in their schedule of regulation promulgation. The

standards for major sources of HAPs must require the maximum degree of emission reduction that the EPA determines to be achievable by each particular source category. This standard is referred to as the maximum achievable control technology or MACT for short. MACT levels can be different for existing and new sources. The EPA determines what kind of controls qualify as the “maximum control” for each category of HAP sources. For source categories with at least 30 sources nationwide, MACT must be no less stringent than the average emission rate achieved by the best performing 12 percent of existing sources. Maximum achievable control technology ensures that both new and existing major sources of toxic air pollution use the kind of technology which provides maximum control of HAPs on an ongoing basis. The terms NESHAP and MACT are often used interchangeably.

Area sources may require either MACT or Generally Available Control Technology (GACT). GACT are standards less stringent than MACT. Information about standards that have been promulgated for area sources can be found at www.epa.gov/ttn/atw/area/arearules.html.

1.16.3 Schedule for Compliance with the NESHAPs

New sources (i.e., sources that commence construction or reconstruction after proposal of the NESHAPs) must comply with the standard immediately upon start-up with one exception.

Sources constructed or reconstructed after the NESHAPs proposal, but before promulgation, must comply with the promulgated standard within three years of promulgation. Existing sources (i.e., sources in operation prior to the proposed standard) have three years from the promulgation date to comply with the NESHAP.

1.16.4 Additional NESHAPs Information

For a complete listing of NESHAPs that affect both major and areas sources go to www.epa.gov/ttn/atw/area/arearules.html. To obtain copies of the NESHAP standards as they appear in the Code of Federal Regulations (CFR), go to www.epa.gov/epahome/rules.html#codified. NESHAPs are contained in Title 40 of the CFR, Part 63. For additional guidance on how to obtain federal regulations, see Appendix D.

To obtain copies of outreach materials on some of the promulgated NESHAPs, contact the DEQ, Environmental Assistance Program, at (800) 662-9278. Some of the publications can be downloaded at www.michigan.gov/deqair (select “Clean Air Assistance”).

1.16.5 Comparison of Federal and Michigan Air Toxics Rules

Michigan’s air toxics rules (see Chapter 1.2.5) take precedence over the federal Clean Air Act regulations where the rules provide for stricter control of toxic air pollution. The following table outlines the provisions of both Michigan’s toxic air contaminant regulations and the federal Clean Air Act Amendment’s hazardous air pollutant regulations:

TABLE 1.3 COMPARISON OF FEDERAL AND STATE AIR TOXIC REGULATIONS

	Federal Clean Air Act Amendments	Michigan Air Toxics Rules
Applies to new or modified sources of air toxics?	Yes	Yes
Applies to existing sources of air toxics?	Yes	No
Which air toxics are regulated?	At present, 188 chemicals known as hazardous air pollutants or HAPs (the list is subject to change)	All substances which are harmful except for 41 specifically exempted compounds (see Appendix 1-B). These regulated contaminants are known as toxic air contaminants or TACs.
Effective date of regulations	Phased in between 1990 and 2000 (and beyond)	In effect now
Types of controls required	Maximum achievable controls	Best available controls and health-based screening levels

1.16.6 NESHAPs for Asbestos

Manufacturers that are contemplating the demolition or renovation of any structure should be aware that this activity may be regulated under the NESHAPs for Asbestos. The purpose of this NESHAPs is to minimize the release of asbestos fibers during renovation and demolition activities. The NESHAPs applies to renovations of institutional, commercial, or industrial structures if the amount of regulated asbestos-containing material is 260 or more linear feet, 160 or more square feet, or 35 or more cubic feet. The NESHAPs applies to all demolition activities at institutional, commercial, or industrial structures, regardless of whether or not the structures contain asbestos.

The NESHAPs for Asbestos was promulgated on April 6, 1973, and later revised in 1990.

Since the NESHAPs was one of the early promulgated NESHAPs, the regulation is found in Part 61, not Part 63, of Title 40 of the Federal Code of Regulations.



The NESHAPs for Asbestos basically has four requirements: notification, work practice standards, proper waste disposal, and training. A notification form describing the project must be postmarked or hand delivered at least 10 working days before beginning demolition or renovation activities to enable the regulatory agency to ensure that all precautions are being taken to minimize asbestos emissions. The work practice standards require that the asbestos be adequately wetted and carefully lowered to the ground. For waste disposal, all asbestos-containing waste must be placed in leak-tight containers or leak-tight wrapping. These containers or wrapped materials must be properly labeled and taken to an appropriate waste disposal site as soon as is practical. Finally, the training requirement is met by having at least one trained supervisor present when asbestos is stripped, removed, disturbed, or otherwise handled.

SECTION ONE: Environmental Regulations

While the NESHAPs is concerned about the release of asbestos fibers to the outer air, there are other asbestos regulations focusing on worker protection. For information about these requirements see Chapter 21. For more detailed information about the NESHAPs for Asbestos, contact the NESHAPs Asbestos Coordinator at (517) 373-7023. To obtain a copy of the “[Understanding the Asbestos NESHAP](#)” fact sheet, contact the DEQ, Clean Air Assistance Program, at (800) 662-9278. This publication can also be downloaded from www.michigan.gov/deqair (select “Asbestos NESHAP Program”).

1.17 New Source Performance Standards

New Source Performance Standards (NSPS) are federal requirements applicable to over 75 categories of industrial emission units. The EPA developed these standards to ensure that old sources of air pollution would be replaced with less polluting technology, thus having a net benefit to air quality.

Not only does the installation of certain new emission units after a specific date trigger applicability with the NSPS, changes to your existing emission units could subject you to the standards. Changes are defined in terms of modifications and reconstruction. Modification is defined as “any physical or operational change to an existing emission unit which results in an increase in emissions to the atmosphere of any pollutant to which a standard applies.” If the fixed capital cost of the changes you make to your emission unit is more than 50 percent of the fixed capital costs required to construct a comparable emission unit, then your facility has been “reconstructed” under the NSPS definition. For example, if you replaced the dryer portion of an asphalt plant, you would need to compare the cost of the new dryer to the cost of an entirely new asphalt plant as defined in the NSPS for Hot Mix Asphalt Facilities to determine if your changes fall under the definition of reconstruction.

All of the NSPS are located in Title 40, Part 60, of the Code of Federal Regulations. Each regulation is identified in subparts of Part 60. Appendix 1-C contains a brief description of the emission units covered under an NSPS, along with an effective date and subpart. The NSPS applies to emission units constructed, modified, or reconstructed after the effective date of the standard.

It is important that you understand the definitions of an affected facility under NSPS before you install, modify, or reconstruct sources of air pollution so that you will be able to comply with all of the pertinent emission limits, record keeping, reporting, and other operational requirements that may be included in the NSPS.

1.17.1 Additional Sources of NSPS Information

To obtain copies of the NSPS regulations as they appear in the Code of Federal Regulations (CFR), go to www.epa.gov/epahome/rules.html#codified (Appendix D contains additional information on how to find federal regulations on the Internet). You can also get help by calling the Clean Air Assistance Program at (800) 662-9278.

1.18 Acid Rain Regulations

Electric generating units (EGU) which sell electricity to the grid and burn fossil fuel may be required to obtain and operate in compliance with a Phase II acid rain permit, pursuant to Title IV of the federal Clean Air Act. Those EGUs that have a nameplate capacity of less than 25 MW and burn a fuel with an annual average sulfur content of less than 0.05 percent are exempt from Title IV.

The AQD is the authority responsible for issuing Phase II acid rain permits in Michigan. Those units which become subject to Title IV are required to submit an application to the AQD 24 months before the unit commences operation. Those units which are exempt from the program must submit the exemption form (original and one copy) to the AQD. All acid rain forms should be sent to Brian Carley, DEQ-AQD, 301 E. Louis Glick Hwy, Jackson, MI 49201. One copy must also be sent to the U.S. EPA. Application and exemption forms and their instructions are available from the U.S. EPA Acid Forms web page www.epa.gov/airmarkets/forms/index.html#arp.

Any operating stationary combustion source that emits sulfur dioxide (SO₂) but is not otherwise required to meet the mandatory SO₂ emissions limitations of Title IV is eligible to opt into the Acid Rain Program. Combustion sources are defined as fossil fuel-fired boilers, turbines, or internal combustion engines. The Opt-in Program offers a combustion source a financial incentive to voluntarily reduce its SO₂ emissions. By reducing emissions below its allowance allocation, an opt-in source will have unused allowances which it can sell in the SO₂ allowance market. Opting in will be profitable if the revenue from the sale of allowances exceeds the combined cost of the emissions reduction and the cost of participating in the Opt-in Program. Further information on the Opt-in Program is available on the EPA Air Markets web page www.epa.gov/airmarkets/arp/optin/index.html.

All sources subject to the Title IV Acid Rain Program are also required to obtain a Renewable Operating Permit (see Chapter 1.2.3).



For further information about the Acid Rain Program, contact Brian Carley at (517) 780-7843 or carleyb@michigan.gov. Information is also available on the Internet at www.michigan.gov/deqair (select "Permits").

1.19 Managing Chemical Risk: Accidental Release/Risk Management Plan

On June 21, 1999, companies of all sizes that use certain listed chemicals, submitted for the first time, plans that detail how they will prevent accidental chemical releases from occurring. This compliance requirement is known as the Accidental Release/Risk Management Program of the 1990 Clean Air Act Amendment's Section 112(r). The goal of this regulation is to communicate potential risks to the public and ensure that facilities have implemented a baseline internal management structure that includes safety and prevention and emergency response programs to reduce the possibility of an accidental release. The primary tool used to accomplish this goal is the Risk Management Plan (RMP). A facility must develop an RMP if they have regulated substances (comprised of toxic chemicals and flammables) identified under Section 112(r) at or above a specific threshold quantity that is set for each substance. Size of the

SECTION ONE: Environmental Regulations

company does not determine applicability; a business is required to complete an RMP if the type and quantity of chemicals used are listed as regulated substances under the rule.

There are three levels of compliance with Section 112(r) called “Programs.” Facilities that have a process that uses, stores, manufactures, processes, or handles or transports on-site a Section 112(r) regulated substance over the threshold quantity, are required to conduct some level of accidental release “Program” planning. There are three Programs. Program 1 is the most lenient while Program 3 is the most stringent. The Programs are comprised of four major components:

1. A Hazard Assessment including the modeling of a worst case and alternative accidental chemical release.
2. Establishment of a Management Program (i.e., who's in charge of the RMP).
3. A Prevention Program to minimize the potential occurrence of an accidental release.
4. An Emergency Response Program to protect public health and the environment.

Program 1, 2, or 3 applicability dictates which of these components a facility must comply with. Facilities subject to Section 112(r) must meet their Program compliance requirements by June 21, 1999, or at the time that a substance is first present at their facility.



For more information on risk management planning, or questions regarding the rule, contact the Clean Air Assistance Program at (800) 662-9278. Additional resources and guidance documents for compliance can be downloaded from the EPA accidental release planning web site at www.epa.gov/ceppo (select “Chemical Preparedness and Prevention”).

1.20 Ozone Depleting Substances

Chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) are inert, toxic chemicals that are used as refrigerants for air conditioning, home and commercial refrigeration, and in process cooling equipment that supports manufacturing. Scientists worldwide have concluded that CFCs and HCFCs deplete the ozone layer. As a result, the United States joined 160 nations in signing the Montreal Protocol, an international treaty designed to protect the ozone layer. In the United States, the Protocol is implemented by Title VI of the Clean Air Act (CAA) and Title 40, Part 82, of the Code of Federal Regulations. The regulations provided for the phase-out of CFC production by 1996, HCFC-22 production by 2020, and all other HCFCs by 2030. The regulations also put strict limitations on CFC/HCFC sales, their use in stationary and mobile sources, and their disposal.



The CAA prohibits individuals from knowingly venting CFCs, HCFCs, or any alternative refrigerant into the atmosphere while maintaining, servicing, repairing, or disposing of air conditioning or refrigeration equipment. Furthermore, only EPA-certified technicians can service or dispose of refrigeration or air conditioning equipment (both stationary and mobile sources). The EPA regional office must be notified that all equipment used in the recycling or recovery of refrigerants meets EPA standards. A list of approved certification programs and Air Conditioning

and Refrigeration Institute (ARI)-rated recovery/recycle equipment is available from the Stratospheric Protection Hotline at (800) 296-1996. Owners of air conditioning and refrigeration equipment with more than 50 pounds of charge must keep records of the quantity of refrigerant added to their equipment during servicing and maintenance procedures. Any “substantial” leaks in equipment must be repaired within 30 days.

As the effects of ozone-depleting substance phase-outs begin to take hold, the development and usage of viable alternatives becomes increasingly important. In 1994, the EPA established the significant new alternatives policy (SNAP) program to evaluate new alternatives for ozone-depleting substances. Alternatives that are rated “acceptable” by the SNAP Program can be implemented into processes as legal substitutes. The use of any substance not approved by the SNAP Program is illegal.



Persons with questions concerning CFC/HCFC regulations, the SNAP Program, and stratospheric ozone protection can contact the “Ozone Protection Hotline” toll free at (800)296-1996. If you have Internet access, visit the EPA, Stratospheric Protection Division web site at www.epa.gov/ozone.

APPENDIX 1-A: HAZARDOUS AIR POLLUTANTS (HAPs)

CAS No.	Chemical	CAS No.	Chemical	CAS No.	Chemical	CAS No.	Chemical
75070	Acetaldehyde	84742	Dibutylphthalate	7647010	Hydrochloric acid	75558	1,2-Propylenimine (2-Methyl aziridine)
60355	Acetamide	106467	1,4-Dichlorobenzene(p)	7664393	Hydrogen fluoride (hydrofluoric acid)	91225	Quinoline
75058	Acetonitrile	91941	3,3-Dichlorobenzidine	123319	Hydroquinone	106514	Quinone
98862	Acetophenone	111444	Dichloroethyl ether (Bis(2-chloroethyl)ether)	78591	Isophorone	100425	Styrene
53963	2-Acetylaminofluorene	542756	1,3-Dichloropropene	58899	Lindane (all isomers)	96093	Styrene oxide
107028	Acrolein	62737	Dichlorvos	108316	Maleic anhydride	1746016	2,3,7,8-Tetrachlorodibenzo p-dioxin
79061	Acrylamide	111422	Diethanolamine	67561	Methanol	79345	1,1,2,2-Tetrachloroethane
79107	Acrylic acid	21697	N,N-Diethyl aniline (N,N-Dimethylaniline)	72435	Methozychlor	127184	Tetrachloroethylene (Perchloroethylene)
107131	Acrylonitrile	64675	Diethyl sulfate	74839	Methyl bromide (Bromomethane)	7550450	Titanium tetrachloride
107051	Allyl chloride	119904	3,3-Dimethoxybenzidine	74873	Methyl chloride (Chloromethane)	108883	Toluene
92671	4-Aminobiphenyl	60117	Dimethyl aminoazobenzene	71556	Methyl chloroform (1,1,1-Trichloroethane)	95807	2,4-Toluene diamine
62533	Aniline	119937	3,3-Dimethyl benzidine	60344	Methyl hydrazine	584849	2,4-Toluene diisocyanate
90040	o-Anisidine	79447	Dimethyl carbarmoyl chloride	74884	Methyl iodide (Iodomethane)	95534	o-Toluidine
1332214	Asbestos	68122	Dimethyl formamide	108101	Methyl isobutyl ketone (Hexone)	8001352	Toxaphene (chlorinated camphene)
71432	Benzene	57147	1,1 Dimethyl hydrazine	624839	Methyl isocyanate	120821	1,2,4-Trichlorobenzene
92875	Benzidine	131113	Dimethyl phthalate	80626	Methyl methacrylate	79005	1,1,2-Trichloroethane
98077	Benzotrithloride	77781	Dimethyl sulfate	1634044	Methyl tert butyl ether	79016	Trichloroethylene
100447	Benzyl chloride	534521	4,6-Dintro-o-cresol, and salts	101144	4,4-Methylene bis (2-chloroaniline)	95954	2,4,5-Trichlorophenol
92524	Biphenyl	51285	2,4-Dinitrophenol	75092	Methylene chloride (Dichloromethane)	88062	2,4,6-Trichlorophenol
117817	Bis (2-ethylhexyl) phthalate (DEHP)	121142	2,4-Dinitrotoluene	101688	Methylene diphenyl diisocyanate (MDI)	121448	Triethylamine
542881	Bis (chloromethyl) ether	123911	1,4-Dioxane (1,4-Diethyleneoxide)	101779	4,4'-methylenedianiline	1582098	Trifluralin
75252	Bromoform	122667	1,2-Diphenylhydrazine	91203	Naphtalene	540841	2,2,4-Trimethylpentane
106990	1,3-Butadiene	106898	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	98953	Nitrobenzene	108054	Vinyl acetate
156627	Calcium cyanamide	106887	1,2-Epoxybutane	92933	4-Nitrobiphenyl	593602	Vinyl bromide
133062	Captan	140885	Ethyl acrylate	100027	4-Nitrophenol	75014	Vinyl chloride
63252	Carbaryl	100414	Ethyl benzene	79469	2-Nitropropane	75354	Vinylidene chloride (1,1 Dichloroethylene)
75150	Carbon disulfide	51796	Ethyl carbamate (Urethane)	684935	N-Nitroso-N-methylurea	1330207	Xylenes (isomers and mixtures)
56235	Carbon tetrachloride	75003	Ethyl chloride (Chloroethane)	62759	N-Nitrosodimethylamine	95476	o-Xylenes
463581	Carbonyl sulfide	106934	Ethylene dibromide (Dibromoethane)	59892	N-Nitrosomorpholine	108383	m-Xylenes
120809	Catechol	107062	Ethylene dichloride (1,2-Dichloroethane)	56382	Parathion	106423	p-Xylenes
133904	Chloramben	107211	Ethylene glycol	82688	Pentachloronitrobenzene (Quintobenzene)	COMPOUNDS Antimony compounds Arsenic compounds (inorganic including arsine) Beryllium compounds Cadmium compounds Chromium compounds Cobalt compounds Coke oven emissions Cyanide compounds Fine mineral fibers Glycol ethers* Lead compounds Manganese compounds Mercury compounds Nickel compounds Polycyclic organic matter Radionuclides (including radon) Selenium compounds	
57749	Chlordane	151564	Ethylene imine (Aziridine)	87865	Pentachlorophenol		
7782505	Chlorine	75218	Ethylene oxide	108952	Phenol		
79118	Chloroacetic acid	96457	Ethylene thiourea	106503	p-Phenylenediamine		
532274	2-Chloroacetophenone	75343	Ethylidene dichloride (1,1-Dichloroethane)	75445	Phosgene		
108907	Chlorobenzene	50000	Formaldehyde	7803512	Phosphine		
510156	Chlorobenzilate	76448	Heptachlor	7723140	Phosphorus		
67663	Chloroform	118741	Hexachlorobenzene	85449	Phthalic anhydride		
107302	Chloromethyl methyl ether	87683	Hexachlorobutadiene	1336363	Polychlorinated biphenyls (Aroclors)		
126998	Chloroprene	77474	Hexachlorocyclo pentadiene	1120714	1,3-Propane sultone		
1319773	Cresols/Cresylic acid (isomers and mixtures)	67721	Hexachloroethane	57578	beta-Propiolactone		
95487	o-Cresol	822060	Hexamethylene-1,6-diisocyanate	123386	Propionaldehyde		
108394	m-Cresol	680319	Hexamethyl phosphoramidate	114261	Propoxur (Baygon)		
106445	p-Cresol	110543	Hexane	75569	Propylene oxide		
98828	Cumene	302012	Hydrazine	78875	Propylene dichloride (1,2-Dichloropropane)		
94757	2,4-D, salts and esters						
3547044	DDE						
334883	Diazomethane						
132649	Dibenzofurans						
96128	1,2-Dibromo-3-chloropropane						

* Ethylene Glycol Monobutyl Ether-(2-butoxyethanol; Butyl "Cellosolve") CAS # 111-76-2 **DELISTED 11/29/04**

**APPENDIX 1-B:
LIST OF COMPOUNDS EXCLUDED FROM THE DEFINITION OF A TOXIC AIR
CONTAMINANT**

<ul style="list-style-type: none"> • Acetylene • Aluminum metal dust • Aluminum oxide (nonfibrous forms) • Ammonium sulfate • Argon • Calcium carbonate • Calcium hydroxide • Calcium oxide • Calcium silicate • Calcium sulfate • Carbon dioxide • Carbon monoxide • Cellulose • Coal dust • Crystalline silica emissions from processes specified in Rule 120(f)(xi) • Emery • Ethane • Graphite (synthetic) • Grain dust • Helium 	<ul style="list-style-type: none"> • Hydrogen • Iron oxide • Lead • Liquefied petroleum gas (LPG) • Methane • Neon • Nitrogen • Nitrogen oxide • Nuisance particulates • Oxygen • Ozone • Perlite • Portland cement • Propane • Silicon • Starch • Sucrose • Sulfur dioxide • Vegetable oil mist • Water vapor • Zinc metal dust
--	---

APPENDIX 1-C
STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES
Performance Standards Promulgated as of March 2006

Source	40 CFR 60 Subpart	Regulated Pollutants	Effective Date
General Provisions	A		
Adoption and submittal of state plans for Designated Facilities	B		
Municipal waste combustor units with capacity >225 megagrams/day (250 tons/day)	Ca (See Ea)	Metals (PM), organics (dioxin/furan), and acid gases (SO ₂ and HCL)	Construction, modification, or reconstruction commenced on or before 12/20/89
Municipal waste combustor units located within a municipal waste combustor plant with a plant capacity >35 megagrams/day	Cb (see Eb)	PM, Cadmium, lead, mercury, organics (dioxin/furan), acid gases (SO ₂ and HCL), and NO _x	Construction commenced on or before 9/20/94
Municipal Solid waste landfill	Cc (see WWW)	NMOC	Construction, modification, or reconstruction commenced before 5/30/91
Sulfuric acid production unit	Cd (See H)	Sulfuric acid mist	Construction commenced after 8/17/71
Hospital/medical/infectious waste incinerators	Ce	PM, Cadmium, lead, mercury, organics (dioxin/furan), acid gases (SO ₂ and HCL), and NO _x	Construction commenced on or before 6/20/96
Fossil fuel-fired steam generators >250 MM/Btu/hr	D	PM, NO _x , SO ₂	Construction commenced after 8/17/71
Electric utility steam generators >250 MM/Btu/hr	Da	PM, NO _x , SO ₂	Construction commenced after 9/18/78
Industrial-commercial-institutional steam generators >100 MM/Btu/hr	Db	PM, NO _x , SO ₂	Construction, modification, or reconstruction commenced after 6/19/84
Small industrial-commercial-institutional steam generators >10 MM/Btu/hr but <100 MM/Btu/hr	Dc	PM, SO ₂	Construction, modification, or reconstruction commenced after 6/9/84
Solid waste incinerator of more than 50 tons/day charging rate	E	PM	Construction commenced after 8/17/71

Standards of Performance for New Stationary Sources (continued)

Source	40 CFR 60 Subpart	Regulated Pollutants	Effective Date
Municipal waste combustor unit with capacity >225 megagrams/day (250 tons/day)	Ea (See Ca)	Metals (PM), organics (dioxin/furan), and acid gases (SO ₂ and HCL), and NO _x	Construction commenced after 12/20/89 and on or before 9/20/94; and modification or reconstruction commenced after 12/20/89 and on or before 6/19/96
Municipal Waste Combustor Unit located within a municipal waste combustor plant with a plant capacity >35 megagrams/day	Eb (See Cb)	Metals (PM), organics (dioxin/furan), and acid gases (SO ₂ and HCL), and NO _x	Construction commenced after 9/20/94; or modification or reconstruction after 6/19/96
Hospital/medical/infectious waste incinerators	Ec	PM, cadmium, lead, mercury, organics (dioxin/furan), acid gases (SO ₂ and HCL), and NO _x	Construction commenced after 6/20/96, or modification after 3/16/98
Portland cement plants	F	PM	Construction or modification commenced after 8/17/71
Nitric acid production units	G	NO _x (NO ₂)	Construction or modification commenced after 8/17/71
Sulfuric acid production units	H (See Cd)	Acid mist (H ₂ SO ₂) and SO ₂	Construction or modification commenced after 8/17/71
Hot mix asphalt facilities	I	PM	Construction or modification commenced after 6/11/73
Petroleum refinery oil: Fluid catalytic cracking unit catalyst regenerators Fuel gas combustion device	J	PM, CO, and SO ₂ H ₂ S	Construction or modification commenced after 6/11/73
Claus sulfur recovery plant except claus plants of 20 long tons per day or less		Reduce sulfur compounds and SO ₂	Construction or modification commenced after 10/4/76
Storage vessels for petroleum liquids having a capacity >40,000 gallons but not >65,000 gallons	K	VOC	Construction or modification commenced after 3/8/74 and before 5/19/78
Storage vessels for petroleum liquids having a capacity >65,000 gallons		VOC	Construction or modification commenced after 6/11/73 and before 5/19/78
Storage vessels for petroleum liquids having a capacity >40,000 gallons	Ka	VOC	Construction commenced after 5/18/78
VOC liquid storage vessels having a capacity > or equal to 40 cubic meters	Kb	VOC	Construction or modification or reconstruction commenced after 7/23/84

Standards of Performance for New Stationary Sources (continued)

Source	40 CFR 60 Subpart	Regulated Pollutants	Effective Date
Secondary lead smelters: pot furnaces of more than 550 pounds charging capacity, blast (cupola) furnaces, and reverberatory furnaces	L	PM	Construction or modification commenced after 6/11/73
Secondary brass and bronze production plants: reverberatory and electric furnaces of 2205 pounds or greater production capacity and blast (cupola) furnaces 550 pounds per hour or greater production capacity	M	PM	Construction or modification commenced after 6/11/73
Oxygen process furnaces	N	PM	Construction or modification commenced after 6/11/73
Top-blown basic oxygen process steelmaking facilities (BOPF) and hot metal transfer stations and skimming stations used with bottom-blown BOPFs	Na	PM	Construction or modification or reconstruction commenced after 1/20/83
Sewage treatment plants	O	PM	Construction or modification commenced after 6/11/73
Primary copper smelters: dryer, roaster, smelting furnace, and copper converter	P	PM and SO ₂	Construction or modification commenced after 10/16/74
Primary zinc smelters: roaster and sintering machine	Q	PM and SO ₂	Construction or modification commenced after 10/16/74
Primary lead smelters: sintering machine, sintering machine discharge end, blast furnace, dross reverberatory furnace, electric smelting furnace, and converter	R	PM and SO ₂	Construction or modification commenced after 10/16/74
Primary aluminum reduction plants: potroom groups and anode bake plants	S	Fluorides	Construction or modification commenced after 10/23/74
Phosphate fertilizer industry: wet-process phosphoric acid plant having a design capacity of more than 15 tons of equivalent P ₂ O ₅ feed per calendar day	T	Fluorides	Construction or modification commenced after 10/22/74
Phosphate fertilizer industry: superphosphoric acid plant having a design capacity of more than 15 tons of equivalent P ₂ O ₅ feed per calendar day	U	Fluorides	Construction or modification commenced after 10/22/74
Phosphate fertilizer industry: granular diammonium phosphate plant having a design capacity of more than 15 tons of equivalent P ₂ O ₅ feed per calendar day	V	Fluorides	Construction or modification commenced after 10/22/74

Standards of Performance for New Stationary Sources (continued)

Source	40 CFR 60 Subpart	Regulated Pollutants	Effective Date
Phosphate fertilizer industry: triple superphosphate plant having a design capacity of more than 15 tons of equivalent P ₂ O ₅ feed per calendar day	W	Fluorides	Construction or modification commenced after 10/22/74
Phosphate fertilizer industry: granular triple superphosphate storage facility	X	Fluorides	Construction or modification commenced after 10/22/74
Coal preparation plants which process more than 200 tons per day	Y	PM	Construction or modification commenced after 10/22/74
Ferroalloy production facilities	Z	PM, CO	Construction or modification commenced after 10/21/74
Steel plants: product carbon, alloy, or specialty steels; electric arc furnaces; and dust-handling systems	AA	PM	Construction or modification or reconstruction commenced after 10/21/74 and on or before 8/17/83
Steel plants: product carbon, alloy, or specialty steels; electric arc furnaces; argon-oxygen decarburization vessels; and dust-handling systems	AAa	PM	Construction or modification or reconstruction commenced after 8/17/83
Kraft pulp mills: digester system, brown stock washer system, multiple-effect evaporator system, recovery furnace, smelt dissolving tank, lime kiln, and condensate stripper system	BB	PM, TRS	Construction or modification commenced after 9/24/76
Glass melting furnace	CC	PM	Construction or modification commenced after 6/15/79
Grain elevators: truck loading/unloading station, barge and ship unloading station, barge and ship loading station, railcar loading station, railcar unloading station, grain dryer, and all grain handling operations	DD	PM	Construction or modification or reconstruction commenced after 8/3/78
Surface coating of metal furniture	EE	VOC	Construction or modification or reconstruction commenced after 11/20/80
Stationary gas turbines with a heat input peak load equal to or >10.7 gigajoules per hour, based on the lower heating value of the fuel fired	GG	NO _x , SO ₂	Construction or modification or reconstruction commenced after 10/3/77
Rotary lime kiln used in the manufacture of lime	HH	PM	Construction or modification commenced after 5/3/77

Standards of Performance for New Stationary Sources (continued)

Source	40 CFR 60 Subpart	Regulated Pollutants	Effective Date
Lead-acid battery manufacturing plants that produce or have the design capacity to produce in one day (24 hours) batteries containing an amount of lead equal to or greater than 5.9 Mg (6.5 tons)	KK	Lead	Construction or modification commenced after 1/14/80
Metallic mineral processing plants: crusher and screen in open-pit mines; each crusher, screen bucket elevator, conveyor belt transfer point, thermal dryer, product packaging station, storage bin, enclosed storage area, truck loading station, truck unloading station, railcar loading station, and railcar unloading station at the mill or concentrator	LL	PM	Construction or modification commenced after 8/24/82
Automobile and light-duty truck surface coating operations: prime coat operation, each guide coat operation, and each topcoat operation	MM	VOC	Construction or modification or reconstruction commenced after 10/5/79
Phosphate rock plants: phosphate rock plants which have a maximum plant production capacity >3.6 megagrams per hour (4 tons/hr); dryers, calciners grinders, and ground rock handling and storage facilities, except those facilities producing or preparing phosphate rock solely for consumption in elemental phosphorus production	NN	PM	Construction or modification or reconstruction commenced after 9/21/79
Ammonium sulfate manufacture: ammonium sulfate dryer within an ammonium sulfate manufacturing plant in the caprolactam by-product, synthetic, and coke oven by-product sectors of the ammonium sulfate industry	PP	PM	Construction or modification commenced after 2/4/80
Graphic arts industry: publication rotogravure printing process	QQ	VOC	Construction or modification or reconstruction commenced after 8/28/80
Pressure sensitive tape and label surface coating operation	RR	VOC	Construction or modification or reconstruction commenced after 12/30/80
Industrial surface coating: large appliances	SS	VOC	Construction or modification or reconstruction commenced after 12/24/80
Metal coil surface coating: prime coat operation, prime and finish coat operation combined when the finish coat is applied wet on wet over the prime coat and both coatings are cured simultaneously	TT	VOC	Construction or modification or reconstruction commenced after 1/5/81

Standards of Performance for New Stationary Sources (continued)

Source	40 CFR 60 Subpart	Regulated Pollutants	Effective Date
Asphalt processing and asphalt roofing manufacture: saturator and each mineral handling and storage facility at asphalt roofing plants; and each asphalt storage tank and each blowing still at asphalt storage tank or blowing still that processes and/or stores only nonroofing and asphalt roofing plants	UU	PM	Construction or modification commenced after 11/18/80
Equipment leaks of VOC in the synthetic organic chemicals manufacturing industry	VV	VOC	Construction or modification commenced after 1/5/81
Beverage can surface coating industry: exterior base coat operation, overvarnish coating operation, and inside spray coating operation	WW	VOC	Construction or modification or reconstruction commenced after 11/26/80
Bulk gasoline terminals: loading racks at a bulk gasoline terminal which deliver liquid product into gasoline tank trucks	XX	VOC	Construction or modification commenced after 12/17/80
New residential wood heaters	AAA	PM	Manufactured on or after 7/1/88 or sold on or after 7/1/90
Rubber tire manufacturing industry: undertread cementing operation, sidewall cementing operation, tread end cementing operation, bead cementing operation, greentire spraying operation, Michelin-A operation, Michelin-B operation, and each Michelin-C automatic operation	BBB	VOC	Construction or modification or reconstruction commenced after 1/20/83
VOC emissions from the polymer manufacturing industry: Polypropylene and polyethylene Polystyrene and poly(ethylene terephthalate)	DDD	TOC TOC	Construction or modification or reconstruction commenced after 1/10/89. Some processes that are constructed, modified, or reconstructed on or before 1/10/89 but after 9/30/87 are affected. Construction or modification or reconstruction commenced after 9/30/87
Flexible vinyl and urethane coating and printing: rotogravure printing line used to print or coat flexible vinyl or urethane product	FFF	VOC	Construction or modification or reconstruction commenced after 1/18/83

Standards of Performance for New Stationary Sources (continued)

Source	40 CFR 60 Subpart	Regulated Pollutants	Effective Date
Equipment leaks at petroleum refineries	GGG	VOC	Construction or modification commenced after 1/4/83
Synthetic fiber production facilities: solvent spun synthetic fiber process that produces more than 500 megagrams of fiber per year	HHH	VOC	Construction or modification commenced after 11/23/82
Synthetic organic chemical manufacturing industry air oxidation unit process	III	TOC	Construction or modification or reconstruction commenced after 10/21/83
Petroleum drycleaners: total manufacturers' rated dryer capacity equal to or greater than 38 kilograms (84 pounds): petroleum solvent dry cleaning dryers, washers, filters, stills, and settling tanks	JJJ	VOC	Construction and modification commenced after 12/14/82
Onshore natural gas processing	KKK	VOC	Construction or modification or reconstruction commenced after 1/20/84
Onshore natural gas processing	LLL	SO ₂	Construction or modification commenced after 1/20/84
Synthetic organic chemical manufacturing industry distillation operations	NNN	VOC	Construction or modification or reconstruction commenced after 12/30/83
Nonmetallic mineral processing plants: crusher grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also crushers and grinding mills at hot mix asphalt facilities	OOO	PM	Construction or modification or reconstruction commenced after 8/31/83
Wool fiberglass insulation manufacturing plants: rotary spin wool fiberglass insulation manufacturing line	PPP	PM	Construction or modification or reconstruction commenced after 2/7/84
Petroleum refinery wastewater systems	QQQ	VOC	Construction or modification or reconstruction commenced after 5/4/87
Synthetic organic chemical manufacturing industry (SOCMI) reactor process	RRR	TOC	Construction or modification or reconstruction commenced after 6/29/90
Magnetic tape coating facilities	SSS	VOC	Construction or modification or reconstruction commenced after 1/22/86

Standards of Performance for New Stationary Sources (continued)

Source	40 CFR 60 Subpart	Regulated Pollutants	Effective Date
Industrial surface coating: business machines	TTT	VOC	Construction or modification or reconstruction commenced after 1/8/86
Calciners and dryers in mineral industries	UUU	PM	Construction or modification or reconstruction commenced after 4/23/86
Polymeric coating of support substrates facilities	VVV	VOC	Construction or modification or reconstruction commenced after 4/30/87
Municipal solid waste landfills	WWW (see Cc)	NMOC	Construction or modification or reconstruction commenced or began accepting waste on or after 5/30/91
Small municipal waste combustor units	AAAA	Metals (cadmium, lead, mercury, opacity, PM), organics (dioxin/furan), acid gases (HCL, NOx, SO2), CO, and fugitive ash	Construction commenced after 8/30/99 or modification or reconstruction commenced after 6/6/01
Small municipal waste combustor units	BBBB	Metals (cadmium, lead, mercury, opacity, PM), organics (dioxin/furan), acid gases (HCL, NOx, SO2), CO, and fugitive ash	Construction commenced on or before 8/30/99
Commercial and industrial solid waste incinerator units	CCCC	Cadmium, lead, mercury, opacity, PM, dioxin, furan, HCL, NOx, SO2, and CO	Construction commenced after 11/30/99 or modification or reconstruction commenced on or after 6/1/01
Commercial and industrial solid waste incinerator units	DDDD	Cadmium, lead, mercury, opacity, PM, dioxin, furan, HCL, NOx, SO2, and CO	Construction commenced on or before 11/30/99
Other Solid Waste Incineration Units	FFFF	Cadmium, lead, mercury, opacity, PM, dioxin, furan, HCL, NOx, SO2, and CO	Construction commenced on or before 12/9/04
Coal-Fired Electric Steam Generating Units	HHHH	mercury	Refer to Regulation

Standards of Performance for New Stationary Sources (continued)

Source	40 CFR 60 Subpart	Regulated Pollutants	Effective Date
Stationary Compression Ignition Internal Combustion Engines	IIII	HC, NO _x , CO, PM	Refer to Regulation
Stationary Spark Ignition Internal Combustion Engines	JJJJ	NO _x , CO, VOC	Refer to Regulation
Stationary Combustion Turbines	KKKK	NO _x , SO ₂	Refer to Regulation
<p align="center"><u>KEY</u></p> <div> <div> CO - Carbon Monoxide H₂S - Hydrogen Sulfide H₂SO₄ - Sulfuric Acid HCL - Hydrogen Chloride </div> <div> TOC - Total Organic Compounds VOC - Volatile Organic Compounds NMOC - Nonmethane Organic Compounds NO_x - Nitrogen Oxides </div> <div> PM - Particulate Matter SO₂ - Sulfur Dioxide TRS - Total Reduced Sulfur () -Expressed as </div> </div>			

WHERE TO GO FOR HELP

SUBJECT:	State and federal air quality regulations
CONTACT:	DEQ, Environmental Assistance Program (800) 662-9278 www.michigan.gov/deqair (select "Clean Air Assistance")
PUBLICATIONS:	Air Emissions Reporting: <ol style="list-style-type: none">1. Michigan Air Emissions Reporting System (MAERS) Workbook Air Permits: <ol style="list-style-type: none">1. Permit to Install: Determining Applicability Guidebook2. Permit to Install Workbook – A Practical Guide to Completing an Air Permit Application3. PASS-ROP Workbook – A Practical Guide to Completing an Electronic Renewable Operating Permit Application4. Life After ROP – Renewable Operating Permit Reporting and Revisions5. PSD Workbook – A Practical Guide to Prevention of Significant Deterioration General Publications: <ol style="list-style-type: none">1. Air Pollution Control 1012. Michigan Air Pollution Control Rules Order Form3. What is an Air Contaminant/Pollutant?4. Working with an Environmental Consultant5. Michigan Clean Air Consultant Directory6. Michigan Open Burning Guide National Emission Standards for Hazardous Air Pollutants (NESHAPs): <ol style="list-style-type: none">1. Understanding the Asbestos NESHAPs2. The National Emission Standard for Hazardous Air Pollutants (NESHAPs) Guide for Chromium Electroplating and Anodizers3. How the Clean Air Act Affects Halogenated Solvent Cleaning Operations4. Air Quality Compliance for Wood Manufacturing Operations5. Wood Furniture Manufacturing Operations NESHAPs

SUBJECT:	State and federal air quality regulations and programs
CONTACT:	DEQ, Air Quality Division (517) 373-7023 www.michigan.gov/deqair

SUBJECT:	Federal air quality regulations
CONTACT:	U.S. Environmental Protection Agency, Office of Air and Radiation www.epa.gov/oar www.epa.gov/oar/oaqps www.epa.gov/ttn

SECTION ONE: Environmental Regulations

SUBJECT: Evaluation of the Clean Air Assistance Program and Clean Air Ombudsman

CONTACT: Clean Air Compliance Advisory Panel
(800) 662-9278
www.michigan.gov/deqair (select "Clean Air Assistance")

SUBJECT: Michigan Clean Air Ombudsman

CONTACT: Michigan Economic Development Corporation
(517) 373-9808
www.michigan.org